AMENDMENTS TO THE CLAIMS

1.(Previously Presented) A process for producing an epitaxial layer of gallium nitride (GaN) comprising:

forming on a surface of a substrate, a film of a silicon nitride of between 5 to 20 monolayers, functioning as a micro-mask;

depositing a continuous gallium nitride layer on the silicon nitride film at a temperature ranging from 400 to 600°C;

after depositing the continuous gallium nitride layer, annealing the continuous gallium nitride layer at a temperature ranging from 950 to 1120°C; and

performing an epitaxial regrowth with continuous gallium nitride layer at the end of a spontaneous *in situ* formation of islands of gallium nitride.

2.(Original) A process according to claim 1, wherein the substrate is selected from the group consisting of sapphire, ZnO, 6H-SiC, 4H-SiC, 3C-SiC, $LiA1O_2$, $LiGaO_2$, $MgA1O_4$, Si, GaAs, A1N, ZrB_2 and GaN.

3.(Previously Presented) A process according to claim 1, wherein the silicon nitride film is a layer of the Si_xN_y type.

4.(Original) A process according to claim 1, wherein the temperature of depositing the continuous gallium nitride layer ranges from 450 to 550°C.

5.(Previously Presented) A process according to claim 1, wherein the temperature of annealing the continous gallium nitride layer ranges from 1050 to 1080°C.

6.(Previously Presented) A process according to claim 1, wherein the temperature of depositing the continuous gallium nitride layer ranges from 450 to 550°C and the temperature of annealing the continuous gallium nitride layer ranges from 1050 to 1080°C.

7.(Previously Presented) A process according to claim 1, wherein the deposition of silicon nitride film is carried out with a carrier gas containing H_2.

8.(Previously Presented) A process according to claim 1, wherein the silicon nitride film is a layer of the Si_xN_y type and wherein forming the film of silicon nitride comprises reacting ammonia and silane.

9.(Previously Presented) A process according to claim 1, wherein the temperature of depositing the continuous gallium nitride layer ranges from 450 to 550°C and the temperature of annealing the continuous gallium nitride layer ranges from 1050 to 1080°C, wherein the deposition of silicon nitride film is carried out with a carrier gas containing H_2, and wherein the silicon nitride film is a layer of the Si_xN_y type and wherein forming the film of silicone nitride comprises reacting ammonia and silane.

10.(Previously Presented) A process according to claim 1, wherein the epitaxial regrowth is carried out using gallium nitride doped with a dopant chosen from the group consisting of magnesium, zinc, cadmium, beryllium, calcium, silicium, oxygen, tin, germanium and carbon.

11-12.(Cancelled)

13.(Currently Amended) An epitaxial gallium nitride layer, obtainable by the process according to claim 1 or 9, wherein the threading dislocation density ranges from 2.10^7 to $1.10^8 cm^{-2}$.

14.(Currently Amended) An optoelectronic component, provided with an epitaxial layer of gallium nitride according to claim ~~11~~13.

15.(Cancelled)

16.(Currently Amended) A gallium nitride layer obtained by epitaxial lateral overgrowth on a crystalline substrate comprising an epitaxial gallium nitride layer according to claim ~~11~~13.

17.(Cancelled)

18.(Currently Amended) A 100μm to 1 cm thick GaN layer obtained by either HVPE or sublimation on a crystalline substrate according to claim ~~11~~13.

19.(Original) A free standing GaN layer obtained after separating from the starting substrate of the thick layer according to claim 18.

20.(Original) An optoelectronic component, provided with a free standing gallium nitride layer according to claim 19.